

TRANSPORTATION & OFF-SITE DISPOSAL PLAN

Revision 1

NUCLEAR METALS, INC. SUPERFUND SITE REMEDIAL DESIGN/REMEDIAL ACTION CONCORD, MASSACHUSETTS

Prepared by:



Prepared for:

General Contractor:



de maximis, inc.

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Section 1: Introduction

On October 17, 2019, the United States Environmental Protection Agency (USEPA) lodged a Consent Decree (CD) with the United States District Court for the District of Massachusetts in connection with Civil Action No. 1-19-cv-12097-RGS. The CD was entered by the Court on December 6, 2019. The CD and its accompanying Statement of Work (SOW) describe the Remedial Design/Remedial Action (RD/RA) activities to be performed for the Nuclear Metals, Inc. (NMI) Superfund Site in Concord, Massachusetts (the NMI Site or Site). The RD/RA activities are to be undertaken by the Settling Defendants (SDs) to the CD, with funding contributions from the Settling Federal Agencies (SFAs).

The SDs have retained *de maximis, inc.* (*de maximis*) to serve as the Project Coordinator and Supervising Contractor (as defined in the CD), and General Contractor (GC) for the performance of all Work required by the CD. *de maximis* will execute sub-contracts with consultants, contractors, laboratories and waste transporters and disposal facilities, as necessary, to implement the Work. As the GC, *de maximis* personnel will act as the Site Project Manager and Construction Manager(s).

de maximis has retained US Ecology- A Republic Services Company (US Ecology) for the transportation and off-site disposal of approximately 130,000 tons of soil, sediment and debris from the Site.

1.1 Purpose and Scope

As the selected Transportation and Disposal contractor, US Ecology has prepared this *Transportation and Off-Site Disposal Plan* (T&D Plan) pursuant to and in accordance with the requirements set forth in the SOW Section 6.7(g) to ensure compliance with SOW Section 4.4 which outlines requirements for Off-Site Shipments. The requirements of Section 6.7(g) are designed to provide a minimal standard of content in this T&D Plan which includes:

- Proposed routes for off-site shipment of waste material
- Identification of communities affected by shipment of clean fill transported on-site and waste material transported off-site; and
- Description of plans to minimize impacts on affected communities.

This T&D Plan has been developed to satisfy these requirements and to provide supplemental information detailing the project team and their responsibilities and includes a Spill Contingency Plan provided in Appendix C. The T&D Plan has been developed to detail proposed transportation and disposal means and methods, including routes and personnel required to transport trucks and filled gondola railcars (waste containers) from the Nuclear Metals, Inc. (NMI) Site in Concord, MA to the designated US Ecology disposal facility, (US Ecology Michigan Disposal (USEM) in Belleville, MI) and the return of emptied gondola railcars to the MHF Transload site in Worcester, MA for loading.

Section 2: Responsibilities

The following sections outline the roles and responsibilities of the US Ecology staff regarding shipping and disposal of materials originating from the Site. Additional information regarding responsibilities and authority of organizations and key personnel for the project can be found in section 3.3 of the Remedial Design Work Plan (RDWP) (*de maximis, inc.*, September 2020). A copy of the NMI Project Team Organizational Chart is included as Appendix A and a US Ecology Organizational Chart is included as Appendix B.

2.1 US Ecology Onsite Waste Coordinator

The US Ecology Onsite Waste Coordinator is responsible for the following:

- Serving as a central US Ecology point-of-contact (POC) with *de maximis, inc.* (*de maximis*) staff and contractors at the project Site.
- Reviewing of all shipment data intended for use on shipment documentation.
- Reviewing all bills of lading or shipping manifests and required associated shipping documents that accompany outgoing shipments of waste from the NMI Site to USEM.
- Providing the US Ecology Rail Program Manager all necessary documents required for the waybilling of loaded railcars.
- Communication with US Ecology Technical Staff on all waste acceptance and Department of Transportation issues.
- Serving as the POC with Director of Rail Development, Manager Rail Equipment and Operations, and shipping container vendors on all NMI Site transportation issues.
- Coordinating with the Rail Program Manager in Michigan for all railcars to be returned for re-loading of waste from the NMI Site.
- Confirming all required markings, if required are labeled and placarded in compliance with all federal, state, and local rules and regulations; and ensuring that all original shipping documents are forwarded to the appropriate parties.

2.2 Republic Director of Rail Development

Republic's Director of Rail Development is responsible for the following:

- Approving and ensuring all transporters and transportation-related subcontractors comply with SOW Section 4.4 and the facilities and subcontractors comply with Section 121(d)(3) of CERCLA, 42 U.S.C § 9621(d)(3), and 40 CFR § 300.440.
- Preparing all transportation related plans.

2.3 Republic Manager Rail Equipment and Operations

Republic's Manager Rail Equipment and Operations is responsible for the following:

- Supplying all rail transportation required for the project
- Waybill and tracking of all loaded rail movements

- Reviewing and approving all rail related transportation charges and invoices.

2.4 US Ecology Rail Logistics Coordinator

US Ecology's Rail Logistics Coordinator is responsible for the following:

- Supporting the Manager Rail Equipment and Operations with waybilling and tracking of rail movements.
- Coordinating with the Onsite Waste Coordinator, Manager Rail Equipment and Operations and US Ecology MA Field Services Group, as necessary to support project activities and scheduling.

2.5 US Ecology Michigan's Logistics Manager

US Ecology Michigan's Logistics Manager is responsible for the following:

- Arranging back-end dray (a truck designed to specifically transport heavy loads) transportation for all waste containers received at US Ecology's Rail Transfer Facility (RTF) located in Romulus, MI.
- Empty return of waste containers (railcars) back to the MHF Transload site.
- Reviewing and approving all back-end dray related transportation charges and invoices.

2.6 US Ecology's Landfill Site Manager

US Ecology's Landfill Site Manager is responsible for the following:

- Arranging for off-load and disposal of material from waste containers received at USEM in Belleville, MI.
- Releasing of empty waste containers from the subtitle C landfill site.

In addition, Decontamination Decommissioning & Environmental Services, LLC (DDES) will provide radiation protection plan support, including surveying and documenting radiological conditions on all waste material containers entering and leaving the Site.

Section 3: Transportation Program

The current outlook of site progress indicates that select shipments from the NMI Site are anticipated to begin as early as the 2021 calendar year and will likely continue through the 2026, or later, construction season. Throughout the shipping duration, it is anticipated that nearly all remedial waste shipments will be completed via a combination of truck and rail transportation. Shipments are anticipated to include predominantly impacted soils with the inclusion of miscellaneous debris both identified and produced throughout the Remedial Design/Remedial Action. The following sections outline the anticipated waste containers, their methods of transfer, as well as the vendors of this equipment.

3.1 Waste Containers or Conveyances

The anticipated waste at the NMI Site will be predominantly soils, sediments, concrete debris, and other debris generated throughout remedial actions. Wastes will be loaded into trucks (dump trailers), lined with a 4 mil slip liner to ease the transfer between truck and rail during the dumping operation. Each dump trailer will be loaded between thirty-three (33) and thirty-five (35) net tons.

Upon arrival at the MHF Transload site, each dump trailer will dump directly into gondola railcars for shipment via rail to the USEM rail facility in Romulus, MI. The gondola railcars will have a volume capacity of 101 cubic yards (~2700 cubic feet) with a maximum gross weight capacity of 286,000 pounds. Railcar gondolas will be lined with bulk railcar liners prior to being loaded. The railcar liners will be properly closed and secured prior to shipment.

3.2 Transportation Methods

Shipments of waste from the NMI site to USEM will be accomplished using both truck and rail transportation. All truck shipments originating from NMI will be shipped over-road directly to the MHF Transload site in Worcester, MA, approximately 38 miles from the Site. The soils will be transferred to gondolas via direct dump through a chute, prior to being shipped via rail cars by US Ecology, to the US Ecology's RTF in Romulus, MI; and then transported by truck to the landfill for disposal. All shipments originating from NMI will be off-loaded in Romulus, MI, under cover, using excavators and the waste materials will be placed into trucks provided by S&C transport for delivery to the landfill in Belleville, MI. All transportation routes are discussed in Section 4.

3.3 Railcar Shipment Dispatch – Empty / Loaded Cars

US Ecology's on-site Waste Coordinator will coordinate with *de maximis* and the Manager Rail Equipment and Operations to schedule empty railcars for delivery to the MHF Transload site based on orders for rail cars from *de maximis*, via e-mail 30 days in advance. Loaded railcars will be directed to be pulled for transportation to USEM by the Manager Rail Equipment and Operations. Rail service availability is expected to be Monday through Friday.

3.4 Transporters

The following is a list of transporters that are proposed to be used by US Ecology on the NMI Project. All transporters, if not already part of US Ecology, will be subcontracted to US Ecology over the course of the Project.

3.4.1 Goulet Trucking

Goulet trucking will be providing the dump trailer transportation from the NMI site to the MHF transload in Worcester, MA.

3.4.2 Providence and Worcester Railroad (PWRR)

The Providence and Worcester Railroad will be providing the first leg of rail transportation from the MHF Transload site. PWRR will interchange with the CSX Railroad (CSXT) in Worcester for further transport.

The primary contact for scheduling at the MHF Transload site located in Worcester, MA, will be Rebecca Hans, Transload Project Manager. Ms. Hans' mobile number is 724-766-2543. Her email address is becky_hans@mhfservices.com.

3.4.2 CSX Transportation (CSXT)

CSXT will be providing RR service for the project from the PWRR interchange point. Loaded railcars will be interchanged in Worcester, MA and be delivered directly to the US Ecology Romulus RTF in Romulus, MI. Empty railcars returning to the MHF Transload site will be delivered to the PWRR in Worcester, MA.

3.4.3 S&C Transport

S&C Transport or US Ecology will provide back-end dray trucking services from the US Ecology Romulus RTF to the USEM Landfill in Belleville, MI.

Mr. Jim Vigrass – the US Ecology Romulus RTF Manager will make trucking arrangements for the back-end transportation of materials off loaded from the received railcars. Mr. Vigrass's primary office number is 734-727-5526 and his alternate contact number (mobile) is 734-576-0161, with an email address of jim.vigrass@usecology.com.

Mr. Mike McInnis is the primary contact for S&C transport. Mr. McInnis can be reached at 734-576-0384, with an email address of mike.mcinnis@sctransport.org.

3.4.4 US Ecology

The US Ecology Field Services group located in Wrentham, MA will provide over-road transportation from the NMI Site to the MHF Transload site in Worcester, MA utilizing Goulet trucking.

The primary contact based out of Wrentham, MA, is Mr. Richard Blake. Mr. Blake can be reached on his mobile phone at 339-327-7309, with an email address of rich.blake@usecology.com.

The alternate contact based out of Wrentham, MA, is Ms. Kristine Sahagian. Ms. Sahagian can be reached on her mobile phone at 508-803-1218, with an email address of kristine.sahagian@usecology.com.

Section 4: Transportation Routes

The following RR and trucking routes will be utilized for shipments from the NMI site to the designated disposal facility. Railcar Tracking Reports will be provided for all railcar shipments daily to parties specified by *de maximis*.

4.1 Shipments from PWRR to USEM

4.1.1 PWRR to CSXT Direct Rail Routing to Romulus, MI

1. PWRR to CSXT interchange in Worcester, MA
2. Worcester, MA to Selkirk, NY
3. Selkirk, NY to Willard, OH
4. Willard, OH to Romulus, MI via Detroit, MI

4.1.2 Back End Dray Trucking – Romulus, MI to Belleville, MI (Primary Route)

1. Van Born Road to Merriman Road
2. Merriman Road to I-94
3. I-94 Exit 187 to Rawsonville Road
4. Rawsonville Road to North I-94 Service Drive

4.1.3 Back End Dray Trucking – Romulus, MI to Belleville, MI (Alternate Route)

1. Van Born Road to Wayne Road
2. Wayne Road to I-94
3. I-94 Exit 187 to Rawsonville Road
4. Rawsonville Road to North I-94 Service Drive

4.2 Shipments from NMI to PWRR in Worcester, MA

4.2.1 Front End Trucking – Concord, MA to Worcester, MA (Primary Route)

1. Turn Left from NMI onto Rte. 62 West
2. Rte. 62 West to Rte. 117 West
3. Rte. 117 West to Rte. 495 South
4. Rte. 495 South to exit 65B I-290 West
5. I-290 West to exit 17 Kelley Square
6. Merge onto MA-122A North
7. Second exit onto Madison Street
8. Turn left onto Southbridge Street
9. Arrive at Railyard on Southbridge Street in Worcester, MA

Note: alternative routes may be developed during the project if conditions warrant them such as avoiding road construction projects and congestion from new traffic patterns. In the event that a new traffic route is developed the project contact list (Appendix D) will be notified.

Section 5: Schedule and Operations

5.1 Shipping Schedule

The NMI Project shipments will be made Monday through Friday during normal business hours (7:00 AM and 5:00 PM). MHF's available service times require the last loads to be received prior to 4:30 PM during the week to not interfere with truck-to-rail transfer operations. US Ecology shall work with the project Site and the MHF Transload Facility to schedule railcar moves on a monthly, weekly and daily basis.

Preliminary project schedule calls for a consistent average of 1,000 tons per week for 2.4 years. To accommodate the proposed schedule, it is anticipated that a railcar fleet of 50 to 60 railcars will be required to support the project needs.

The following railcar cycle times are expected:

- Transit time to Michigan - 9 to 11 days
- Railcar off Load - 3 to 5 days
- Transit time back to Site - 9 to 11 day

5.2 Community Disturbance

5.2.1 Communities Affected by Shipment of Waste Material

US Ecology will notify the police and fire departments in these communities two weeks prior to any waste shipment.

- Concord, MA
- Maynard, MA
- Worcester, MA
- Romulus, MI

5.2.3 Plans to Minimize Impacts on Affected Communities

- The established truck routes will be on state/interstate roads to avoid traffic in neighborhoods.
- It is anticipated that a maximum of 10 to 15 trucks will be used per day, during normal business hours (Monday – Friday, 7:00 AM and 5:00 PM).
- Noise abatement procedures will always be followed by transporters servicing the Site. All drivers will be informed to keep noise to a minimum while dropping or picking up waste containers. The use of air horns and compression braking (i.e., 'jake brakes') are prohibited on and around the Site at all times.

Community Groups

TAG – CREW and Green Acton
Town of Concord - Reuse and 2229 Main St Committees



EPA – RPM
Kara Nierenberg, PE

MassDEP - Garry Waldeck
AECOM - EPA Oversight Contractor
Kate Campbell-Hay, USGS – ISS technical support



Data Validation, Management,
and Visualization,
www.NMISite.Org QAPP
development,

Heidi Gaedy, Polly Newbold,
Jonelle Branca,



RSO
ISOCs and ICP
operation

Matt Norton



General Contractor,
Project and Community Relations Coordinator

Bruce Thompson, Todd Majer, Jessie McCusker, Christine
Taddonio, Adrian Bilger, Akin Adegbayi, Al Briand, Jim
Cooney, Thor Helgason, Danielle Ondic, Nicole Barkasi, Dan
Reisel

O & M, Inc.

AOP/IX/GAC systems design / build / operate
Post-Removal Site Control, groundwater
monitoring, PDI support / IDW management,
drone ops,

Dave Fuerst, Keith Robinson



Off-Site T&D
Site Work



AOI-8 and AOI-9
Excavation

Geosyntec

Groundwater RD and ISS RD

Carl Elder, Dave Adilman, Dariusz Chlebica, Chris
Martin, Keaton Belli. For ISS TS / PS – Jeff Gillow*,
Laura Nielsen*, Lee Schwartz* Kelsey Livingston*



COLORADO SCHOOL OF MINES



HALEY
ALDRICH

Sitewide Soils and Sediment RD, Holding Basin RD, "Enabling
Activities" RD (reroute storm drainage, filling in HB, etc.)
Mark Kelley, Jay Peters, Tim Crowl, Mark Haley, James Kaklamanos*



Labs

Non-
Radiological

Radiological



Laboratories



Bedrock CSM
groundwater modeling

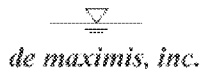
Mike Gefell

Dave Lipson



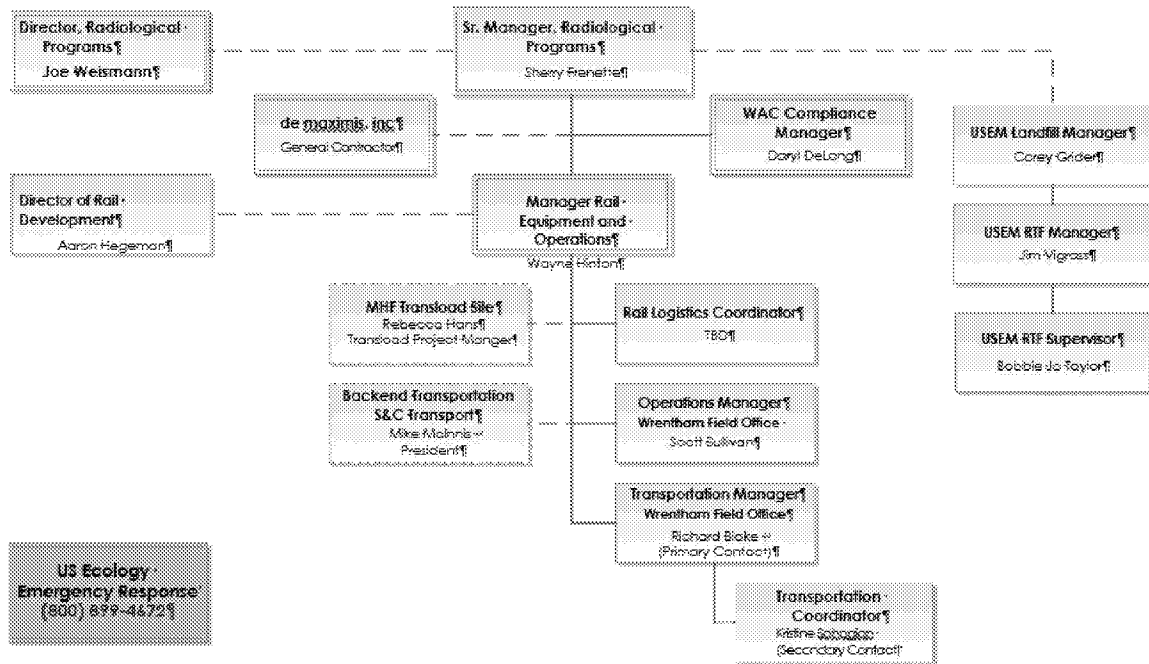
CASCADE

Drilling



APPENDIX B

US Ecology, Inc. Org Chart for NMI Project



APPENDIX C

SPILL CONTINGENCY PLAN

SCOPE

The purpose of this Spill Contingency Plan is to describe possible off-normal conditions that may occur during transportation of waste via truck (back-end dray) and rail from the NMI Site in Concord, MA, to the US Ecology Michigan (USEM) disposal facility located in Belleville, MI. This Plan also discusses expected causal factors and appropriate response actions that will be undertaken by RR transportation contractor and/or US Ecology (or its agents/designees). This plan may be amended as necessary to satisfy changes to project scope, and regulatory or disposal site requirements.

This plan addresses the following Contingency Areas:

1. Railcar or train derailment occurs enroute to designated disposal facility.
2. Spill of truck contents during back-end dray to USEM.

CONTINGENCY AREAS

The following areas have been identified as requiring contingency plan analysis and corrective actions in the event they occur during waste shipments originating from the Site:

Contingency Area 1: Railcar or train derailment occurs enroute to disposal facility.

Likely Cause(s): Catastrophic rail component failure(s), Acts of God.

Immediate Response and Corrective Action(s):

1. In the event of a spill enroute to US Ecology, US Ecology's emergency response center will be contacted (800-899-4672) by the servicing railroad's first responder within 24 hours. US Ecology will then notify *de maximis*. *de maximis* will be responsible for notifying the USEPA project manager. Please note that in some cases the railroad's first responder may also contact the generator of the waste listed on the shipping documents.
2. The railroad's HAZMAT first responder will isolate the affected railcar(s) to a secluded track, if available, or isolate the initial spill area if the railcar cannot be moved.
3. US Ecology is responsible for logging information from the first responder and will dispatch an emergency response contractor to the scene to take over from the CSXT railroad. US Ecology will remain in contact with *de maximis* during the duration of the spill and resulting clean up action. US Ecology, or our designee, will report the spill to the various entities. Reporting will be determined after the team assesses the actual volume spilemediation of

the spill will be performed by US Ecology's emergency response contractor and all other necessary subcontractors (e.g., radiological services). All affected areas will typically be over-excavated with the contents placed in a secondary container (e.g., roll-offs, supersack bags, etc.) and loaded onto a truck or replacement railcar for final disposal. This material will be on an additional manifest referencing the original manifest.

4. US Ecology will provide a written report documenting results of the initial site assessment and any required clean-up efforts, including written notes and a photo diary compiled by their emergency response contractor. A copy of this response report will be provided to *de maximis*.

Discussion: US Ecology will coordinate response to any reported spill from the Site. Representatives from US Ecology and/or our agents may be present at the spill location to ensure all impacted areas are appropriately cleaned up.

Contingency Area 2- Spill of truck contents during front or back-end dray transport to USEM.

Likely Cause(s): Truck accident and loss of gate containment.

Immediate Response and Corrective Action(s):

1. In the event of a spill enroute to USEM from the Romulus transload facility, US Ecology will be contacted by the truck driver or first responder. US Ecology will report the spill to all required parties. US Ecology will then notify Bruce Thompson of *de maximis* immediately. *de maximis* will be responsible for notifying the USEPA and MADEP project managers. Please note that in some cases the first responder may also contact the generator of the waste listed on the shipping documents.
2. The HAZMAT first responder will isolate the affected container, if available, or isolate the initial spill area if the truck cannot be moved.
3. US Ecology is responsible for logging information from the first responder and will dispatch an emergency response contractor to the scene as required. US Ecology or its designated representative will make follow-up reports to designated agencies. Reporting will be determined after the team assesses the actual volume spilled.
4. Remediation of a spill in Michigan will be performed by US Ecology's emergency response contractor. All affected areas will typically be over-excavated with the contents placed in a secondary container (e.g., drums, bags, etc.) and loaded into a replacement truck or container for final disposal. This material will be on an additional manifest referencing the original manifest.
5. US Ecology will provide a written report documenting the results of the initial site assessment and any required clean-up efforts, including written notes and a photo diary

compiled by their emergency response contractor. A copy of this response report will be provided to *de maximis*. Discussion: US Ecology will coordinate response to any reported spill from the Site. Representatives from US Ecology and/or its contractors may be present at the spill location to ensure all impacted areas are appropriately cleaned up.

REFERENCE - Emergency Response Guidebook, U.S. Department of Transportation.

APPENDIX D

NMI Project Transportation Contact List

Name	Company	Role/Responsibility	Contact Number(s)	Email
Bruce Thompson	de maximis, inc.	NMI Project Coordinator	860-662-0526	Brucet@demaximis.com
Jessie McCusker	de maximis, inc.	NMI Project Manager	860-833-4112	Jessie@demaximis.com
Todd Majer	de maximis, inc.	NMI Project Manager	978-875-0635	tmajer@demaximis.com
Amy Hoffman	de maximis, inc.	NMI Project Manager	978-793-7163	Ahoffmann@demaximis.com
Ryan Harding	de maximis, inc.	NMI Project Manager	978-495-2539	rharding@demaximis.com
Aaron Hegeman	Republic Services	Director of Rail Development	(m) 480-205-9632 (o) 480-718-0474	AHegeman@republicservices.com
Wayne Hinton	US Ecology	Manager Rail Equipment and OperO	(m) 508-954-1545 (o) 508-803-1224	wayne.hinton@usecology.com
Sherry Frenette	US Ecology	Sr. Manager- Rad Programs	(m) 702-912-7925	sherry.frenette@usecology.com
Daryl DeLong	US Ecology	On-Site Waste Coordinator	(m) 415-308-7027	daryl.delong@usecology.com
Richard Blake	US Ecology	Transportation Manager	(m) 339-327-7309	rich.blake@usecology.com
	Wrentham Field Office	Primary Contact		

Kristine Sahagian	US Ecology	Transportation Coordinator	(m) 508-803-1218	kristine.sahagian@usecology.com
	Wrentham Field Office	Secondary Contact		
Scott Sullivan	US Ecology	Operations Manager	(m) 774-210-9311	scott.sullivan@usecology.com
	Wrentham Field Office			
Rebecca Hans	MHF Transload Site	Transload Project Manager	(m) 724-766-2543	becky_hans@mhfservices.com
Jim Vigrass	US Ecology	USE MI RTF Manager	(m) 734-576-0161 (o) 734-727-5526	jim.vigrass@usecology.com
Corey Grider	US Ecology	USE MI Landfill Manager	734-699-6213	corey.grider@usecology.com
Mike McInnis	President - S&C Transport	Back End Transportation	734-576-0384	mike.mcinnis@sctransport.org
Global Response Operations Center (GROC)	US Ecology	Emergency Response	800-899-4672	groc@usecology.com

Appendix E

NMI Project Transportation Emergency Call List

Order of Notification	Name	Company	Role/ Responsibility	Contact Number	Email
1	Global Response Operations Center (GROC)	US Ecology	Emergency Response	800-899-4672	groc@usecology.com
2	Sherry Frenette	US Ecology	Sr. Manager, Rad Programs	702-912-7925	sherry.frenette@usecology.com
3	Todd Majer	de maximis, inc.	NMI Project Manager	978-875-0635	tmajer@demaximis.com
4	Jessie McCusker	de maximis, inc.	NMI Project Manager	860-833-4112	Jessie@demaximis.com
5	Amy Hoffman	de maximis, inc.	NMI Project Manager	978-793-7163	Ahoffmann@demaximis.com
6	Ryan Harding	de maximis, inc.	NMI Project Manager	978-495-2539	rharding@demaximis.com

Note: The GROC is staffed 24/7/365 with ER Coordinators. US Ecology has approximately 16 – 18 personnel managing ER calls through the GROC.